

Bunds (graded or level)



Hydrological purpose:	Soil and water conservation
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Increased crop yield
Suited to altitude?	Midland
Suited to slope?	3-35% on cultivated land (level) 3-15% (graded), up to 5% for grassland
Suited to rainfall conditions?	< 1400 mm (level) > 1400mm (graded)
Suited to soil conditions?	Not sandy, not stony, not shallow, moderately-well drained
Suited to degraded land?	Yes
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	Low
Generates additional fodder?	No
Requires access to markets?	Low
Required level of cooperation	High

Fanya Juu (graded or level)



Hydrological purpose:	Soil and water conservation
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Increased crop yield
Suited to altitude?	Midland
Suited to slope?	3-15%, up to 5% for grassland
Suited to rainfall conditions?	900- 1400 mm >1400 if altitude 500 - 1000m <900mm if altitude >1500 (level) > 1400mm (graded)
Suited to soil conditions?	Deep well drained soil not sandy not stony soils
Suited to degraded land?	No
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	Low
Generates additional fodder?	If combined with vegetation strip
Requires access to markets?	Low
Required level of cooperation	High

Bench Terracing



Hydrological purpose:	Soil and water conservation
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Increase crop productivity

Suited to altitude?	Midland, highland
Suited to slope?	15-50%
Suited to rainfall conditions?	All
Suited to soil conditions?	Deep well drained soil not sandy not stony soils
Suited to degraded land?	Yes
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	Low
Generates additional fodder?	Low
Requires access to markets?	Low
Required level of cooperation	High

Conservation Tillage



Hydrological purpose:	Soil and water conservation
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Increase crop productivity

Suited to altitude?	Midland, highland
Suited to slope?	All
Suited to rainfall conditions?	All
Suited to soil conditions?	Deep soil
Suited to degraded land?	No
Land needs	No
Required level of labor input?	High
Required level of capital investment?	Low
Generates additional fodder?	Low
Requires access to markets?	Low
Required level of cooperation	Low

Hillside Terraces (with or without trenches)



Hydrological purpose:	Soil and water conservation
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Increased yield

Suited to altitude?	Highland
Suited to slope?	15-50%
Suited to rainfall conditions?	<900mm
Suited to soil conditions?	Not vertisol, not sandy, medium-well drained
Suited to degraded land?	Yes
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	Low
Generates additional fodder?	If combined with vegetation strip
Requires access to markets?	
Required level of cooperation	High

Grass strips along contour



Hydrological purpose:	Soil and water conservation
Bio-physical purpose:	Soil fertility
Socio-economic purpose	Forage for livestock

Suited to altitude?	Midland
Suited to slope?	< 15%
Suited to rainfall conditions?	> 900 mm
Suited to soil conditions?	-
Suited to degraded land?	Yes
Land needs	High
Required level of labor input?	Medium
Required level of capital investment?	Low
Generates additional fodder?	Yes
Requires access to markets?	Low
Required level of cooperation	Low

Wind mill



Hydrological purpose:	water lifting
Bio-physical purpose:	-
Socio-economic purpose	Cash crop in the dry season

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	All but access to water storage and wind
Suited to soil conditions?	-
Suited to degraded land?	no
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	Medium
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Low

Treadle pump



Hydrological purpose:	Water lifting
Bio-physical purpose:	-
Socio-economic purpose	Cash crop in the dry season

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	All but access to water storage
Suited to soil conditions?	-
Suited to degraded land?	No
Land needs	No
Required level of labor input?	High
Required level of capital investment?	Medium
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Low

Diesel pumps



Hydrological purpose:	Water lifting
Bio-physical purpose:	-
Socio-economic purpose	Cash crop in the dry season

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	All but access to water storage
Suited to soil conditions?	-
Suited to degraded land?	No
Land needs	No
Required level of labor input?	Low
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Low

Drip irrigation



Hydrological purpose:	Water lifting
Bio-physical purpose:	-
Socio-economic purpose	Improved yield

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	< 900 mm, access to water
Suited to soil conditions?	Not on sandy, moderately-well drained
Suited to degraded land?	No
Land needs	No
Required level of labor input?	Low
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Low

Flood diversion (spate irrigation)



Hydrological purpose:	water storage
Bio-physical purpose:	accumulate sediments
Socio-economic purpose	improved yield

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	< 900 mm
Suited to soil conditions?	-
Suited to degraded land?	yes
Land needs	low
Required level of labor input?	high
Required level of capital investment?	low
Generates additional fodder?	no
Requires access to markets?	low
Required level of cooperation	high

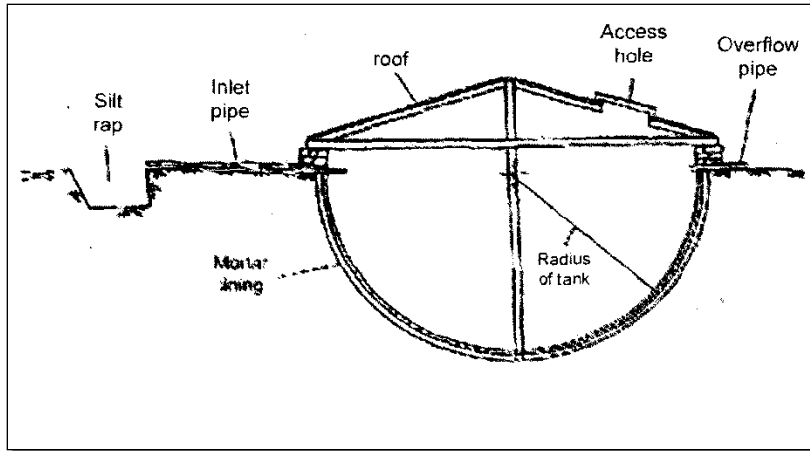
Diversion Weir



Hydrological purpose:	Use of river
Bio-physical purpose:	-
Socio-economic purpose	Supplementary irrigation for cash crop

Suited to altitude?	Lowland
Suited to slope?	-
Suited to rainfall conditions?	All but proximity to river
Suited to soil conditions?	Not sandy soils
Suited to degraded land?	Yes
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	Medium-high
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	High

Underground cisterns



Hydrological purpose:	Water storage
Bio-physical purpose:	-
Socio-economic purpose	Supplementary irrigation

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	-
Suited to soil conditions?	Deep, not vertisol
Suited to degraded land?	Yes
Land needs	Medium
Required level of labor input?	Medium
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Low

Sand dam



Hydrological purpose:	use of river
Bio-physical purpose:	-
Socio-economic purpose	supplementary irrigation for cash crop

Suited to altitude?	lowland
Suited to slope?	-
Suited to rainfall conditions?	all proximity to the river
Suited to soil conditions?	sandy soils
Suited to degraded land?	no
Land needs	low
Required level of labor input?	high
Required level of capital investment?	high
Generates additional fodder?	no
Requires access to markets?	high
Required level of cooperation	high

Pond



Hydrological purpose:	Water storage
Bio-physical purpose:	-
Socio-economic purpose	Supplementary irrigation for cash crop
Suited to altitude?	Midland-highland
Suited to slope?	< 50%
Suited to rainfall conditions?	-
Suited to soil conditions?	Not vertisol, not sandy, moderately-well drained
Suited to degraded land?	No
Land needs	Yes
Required level of labor input?	High
Required level of capital investment?	Medium
Generates additional fodder?	-
Requires access to markets?	High
Required level of cooperation	Low

Hand-dug wells



Hydrological purpose:	Water storage
Bio-physical purpose:	-
Socio-economic purpose	Cash crop in the dry season
Suited to altitude?	Lowland
Suited to slope?	< 35%
Suited to rainfall conditions?	All but access to groundwater
Suited to soil conditions?	Not stony, not shallow, not sandy
Suited to degraded land?	No
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Medium

Roof water harvesting



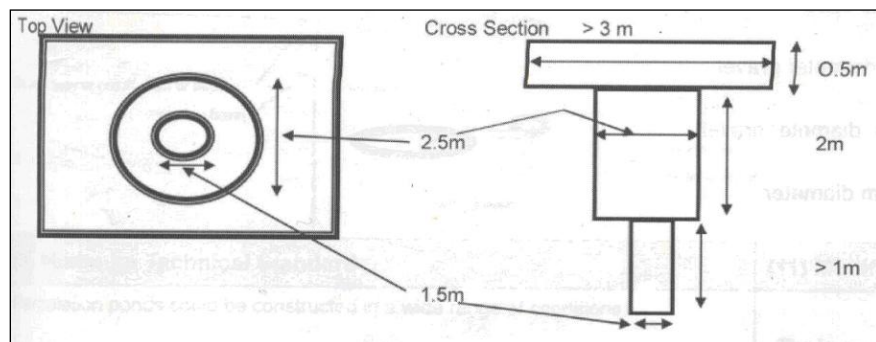
Hydrological purpose:	Water storage
Bio-physical purpose:	
Socio-economic purpose	Supplementary irrigation for cash crop
Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	All
Suited to soil conditions?	-
Suited to degraded land?	Yes
Land needs	Low
Required level of labor input?	Low
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	Medium
Required level of cooperation	Low

Micro dam construction



Hydrological purpose:	Water storage
Bio-physical purpose:	-
Socio-economic purpose	Supplementary irrigation for cash crop
Suited to altitude?	Midland-lowland
Suited to slope?	< 50%
Suited to rainfall conditions?	-
Suited to soil conditions?	-
Suited to degraded land?	Yes
Land needs	Medium
Required level of labor input?	High
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Medium

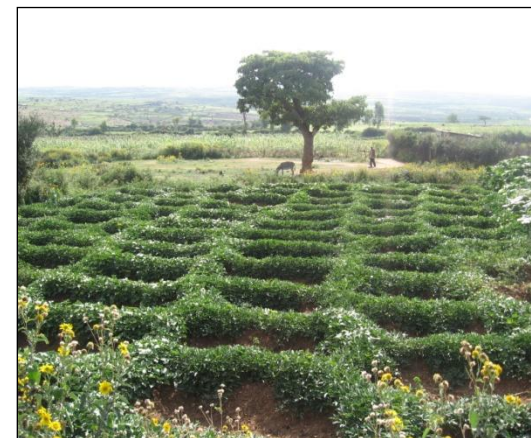
Percolation pond/ percolation pit



Hydrological purpose:	Water storage
Bio-physical purpose:	
Socio-economic purpose	Increased crop yield

Suited to altitude?	Midland-highland
Suited to slope?	< 50%
Suited to rainfall conditions?	All
Suited to soil conditions?	Not vertisol, not sandy, moderately-well drained
Suited to degraded land?	Yes
Land needs	High
Required level of labor input?	Medium
Required level of capital investment?	Low
Generates additional fodder?	No
Requires access to markets?	No
Required level of cooperation	Low

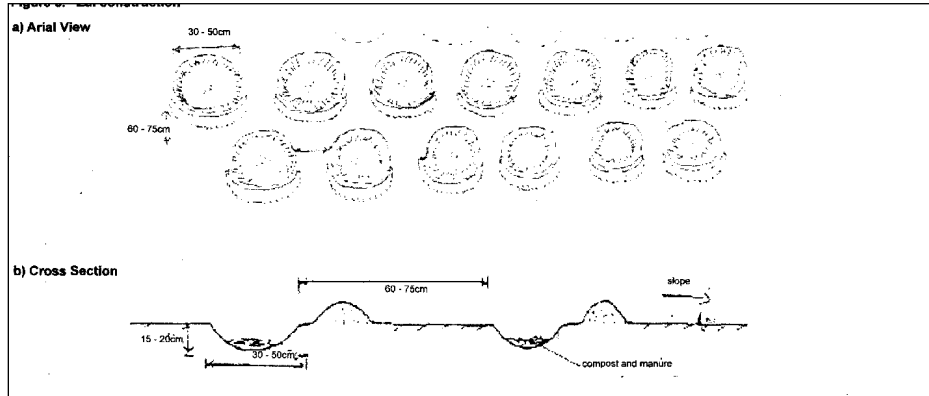
Tied ridge



Hydrological purpose:	In-situ water storage
Bio-physical purpose:	Restore degraded land
Socio-economic purpose	Cultivation on degraded land

Suited to altitude?	-
Suited to slope?	
Suited to rainfall conditions?	< 900 mm <1400 mm if altitude <2300m
Suited to soil conditions?	Moderately -deep , not sandy, medium-well drained
Suited to degraded land?	No
Land needs	Yes
Required level of labor input?	Medium
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	Low
Required level of cooperation	Low

Zai & Planting Pit system



Hydrological purpose:	in-situ water storage
Bio-physical purpose:	restore degraded land
Socio-economic purpose	cultivation on degraded land

Suited to altitude?	-
Suited to slope?	< 5%
Suited to rainfall conditions?	< 900 mm
Suited to soil conditions?	moderately -deep , not sandy, medium-well drained
Suited to degraded land?	yes
Land needs	no
Required level of labor input?	medium
Required level of capital investment?	low
Generates additional fodder?	yes
Requires access to markets?	low
Required level of cooperation	low

Large Half Moons



Hydrological purpose:	insitu water storage
Bio-physical purpose:	erosion reduction
Socio-economic purpose	Crop cultivation in low rainfall area

Suited to altitude?	-
Suited to slope?	< 5%
Suited to rainfall conditions?	< 900 mm if altitude < 1500 m
Suited to soil conditions?	moderately-deep
Suited to degraded land?	yes
Land needs	medium
Required level of labor input?	medium
Required level of capital investment?	low
Generates additional fodder?	no
Requires access to markets?	low
Required level of cooperation	low

Checkdams



Hydrological purpose:	Soil and water conservation
Bio-physical purpose:	Soil fertility
Socio-economic purpose	-

Suited to altitude?	Midland
Suited to slope?	1-35%
Suited to rainfall conditions?	All
Suited to soil conditions?	All
Suited to degraded land?	All
Land needs	Yes
Required level of labor input?	Low
Required level of capital investment?	High
Generates additional fodder?	If vegetative check dam
Requires access to markets?	Low
Required level of cooperation	Medium

Cut off drains/Waterways



Hydrological purpose:	Drainage
Bio-physical purpose:	Reduce soil erosion
Socio-economic purpose	Increased yield

Suited to altitude?	Midland highland
Suited to slope?	< 50 %
Suited to rainfall conditions?	All
Suited to soil conditions?	Not on vertisol
Suited to degraded land?	Yes
Land needs	Low
Required level of labor input?	High
Required level of capital investment?	Low
Generates additional fodder?	If combined with vegetation strip
Requires access to markets?	Low
Required level of cooperation	High

Crop-based fertility management

(Legume, intercropping, crop rotation)



Hydrological purpose:	Water recharge
Bio-physical purpose:	Soil fertility
Socio-economic purpose	Fodder for livestock

Suited to altitude?	-
Suited to slope?	< 50%
Suited to rainfall conditions?	-
Suited to soil conditions?	-
Suited to degraded land?	No
Land needs	No
Required level of labor input?	Medium
Required level of capital investment?	Low
Generates additional fodder?	Yes
Requires access to markets?	Low
Required level of cooperation	Low

Improved soil nutrient input (organic and inorganic fertilizer)



Hydrological purpose:	Water recharge
Bio-physical purpose:	Soil fertility
Socio-economic purpose	Fodder for livestock

Suited to altitude?	-
Suited to slope?	< 50%
Suited to rainfall conditions?	-
Suited to soil conditions?	-
Suited to degraded land?	No
Land needs	No
Required level of labor input?	Medium
Required level of capital investment?	Low
Generates additional fodder?	Yes
Requires access to markets?	Low
Required level of cooperation	Low

Woodlots



Hydrological purpose:	Ground water recharge
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Timber, fruit and fodder

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	Depends on tree type
Suited to soil conditions?	Depends on tree type
Suited to degraded land?	Yes
Land needs	Yes
Required level of labor input?	Medium
Required level of capital investment?	Medium
Generates additional fodder?	Yes if multipurpose tree
Requires access to markets?	Low
Required level of cooperation	Low

Orchards (fruit)



Hydrological purpose:	Ground water recharge
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Timber, fruit and fodder

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	Depends on the fruit
Suited to soil conditions?	Deep soil
Suited to degraded land?	Yes
Land needs	High
Required level of labor input?	Medium
Required level of capital investment?	Medium
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Low

Eyebrow basins



Hydrological purpose:	in situ water storage for trees
Bio-physical purpose:	erosion control
Socio-economic purpose	-

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	< 1400mm 1400 if altitude <1500mm
Suited to soil conditions?	moderately-deep, not vertisol medium-well drained
Suited to degraded land?	yes on degraded land only
Land needs	no
Required level of labor input?	high
Required level of capital investment?	low
Generates additional fodder?	Yes if multipurpose tree
Requires access to markets?	low
Required level of cooperation	low

Herringbones



Hydrological purpose:	In situ water storage for trees
Bio-physical purpose:	improve degraded land
Socio-economic purpose	Increased fodder and fuel wood

Suited to altitude?	-
Suited to slope?	< 5%
Suited to rainfall conditions?	< 900 mm
Suited to soil conditions?	moderately deep and shallow soils, medium texture soils, stony soil
Suited to degraded land?	yes on degraded land only
Land needs	no
Required level of labor input?	high
Required level of capital investment?	low
Generates additional fodder?	Yes if multipurpose tree
Requires access to markets?	low
Required level of cooperation	low

Contour hedgerow/ boundary planting



Hydrological purpose:	ground water recharge
Bio-physical purpose:	erosion reduction
Socio-economic purpose	timber, fruit and fodder

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	depend on tree type
Suited to soil conditions?	depend on tree type
Suited to degraded land?	yes
Land needs	low
Required level of labor input?	low
Required level of capital investment?	low
Generates additional fodder?	yes if multipurpose tree
Requires access to markets?	low
Required level of cooperation	low

Micro-trenches/ trenches/improved pits



Hydrological purpose:	in situ water storage for trees
Bio-physical purpose:	improve degraded land
Socio-economic purpose	exploit productivity of different parts of hillside

Suited to altitude?	-
Suited to slope?	< 35%
Suited to rainfall conditions?	< 900 mm
Suited to soil conditions?	not on shallow and poorly drained soils
Suited to degraded land?	yes on degraded land only
Land needs	no
Required level of labor input?	high
Required level of capital investment?	low
Generates additional fodder?	yes if multipurpose tree
Requires access to markets?	low
Required level of cooperation	low

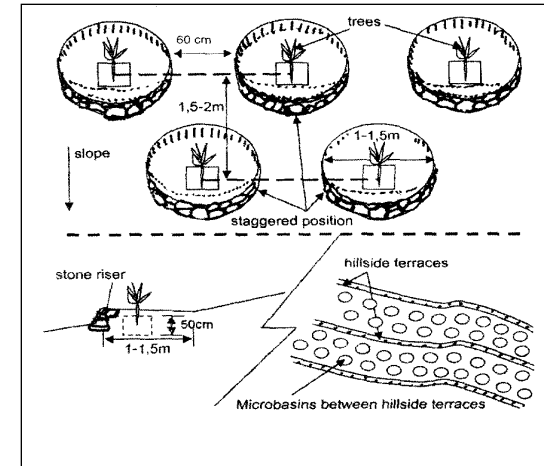
Contour hedgerow/ boundary planting



Hydrological purpose:	Ground water recharge
Bio-physical purpose:	Erosion reduction
Socio-economic purpose	Timber, fruit and fodder

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	Depends on tree type
Suited to soil conditions?	Depends on tree type
Suited to degraded land?	Yes
Land needs	Low
Required level of labor input?	Low
Required level of capital investment?	Low
Generates additional fodder?	Yes if multipurpose tree
Requires access to markets?	Low
Required level of cooperation	Low

Microbasins



Hydrological purpose:	in situ water storage for trees
Bio-physical purpose:	improve degraded land
Socio-economic purpose	Fodder for livestock

Suited to altitude?	midland
Suited to slope?	< 15%
Suited to rainfall conditions?	>900 mm and if altitude >1500 m
Suited to soil conditions?	moderately-deep , not vertisol medium-well drained
Suited to degraded land?	yes on degraded land only
Land needs	no
Required level of labor input?	high
Required level of capital investment?	low
Generates additional fodder?	yes
Requires access to markets?	low
Required level of cooperation	low

Improved livestock breeds



Hydrological purpose:	Increased water efficiency
Bio-physical purpose:	-
Socio-economic purpose	Increased livestock productivity

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	-
Suited to soil conditions?	-
Suited to degraded land?	No
Land needs	No
Required level of labor input?	Medium
Required level of capital investment?	High
Generates additional fodder?	No
Requires access to markets?	High
Required level of cooperation	Low

Over-sewing



Hydrological purpose:	-
Bio-physical purpose:	Grazing land productivity
Socio-economic purpose	Increased high quality fodder

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	-
Suited to soil conditions?	-
Suited to degraded land?	Yes on grassland land
Land needs	No
Required level of labor input?	Low
Required level of capital investment?	Low
Generates additional fodder?	Yes
Requires access to markets?	Medium
Required level of cooperation	Medium

Area enclosure with enrichment planting



Hydrological purpose:	Increase infiltration
Bio-physical purpose:	Reduce erosion
Socio-economic purpose	Increase high quality fodder
Suited to altitude?	All but on degraded grassland only
Suited to slope?	All
Suited to rainfall conditions?	All
Suited to soil conditions?	All
Suited to degraded land?	Yes
Land needs	Yes
Required level of labor input?	Low
Required level of capital investment?	Low
Generates additional fodder?	Yes
Requires access to markets?	Medium
Required level of cooperation	High

Limiting animal movement



Hydrological purpose:	Increased water infiltration
Bio-physical purpose:	Grazing land improvement
Socio-economic purpose	-

Suited to altitude?	-
Suited to slope?	-
Suited to rainfall conditions?	-
Suited to soil conditions?	
Suited to degraded land?	Yes
Land needs	Low
Required level of labor input?	Low
Required level of capital investment?	Low
Generates additional fodder?	-
Requires access to markets?	Low
Required level of cooperation	High

Write your own practice

Hydrological purpose:

Bio-physical purpose:

Socio-economic purpose

Suited to altitude?

Suited to slope?

Suited to rainfall conditions?

Suited to soil conditions?

Suited to degraded land?

Land needs

Required level of labor input?

Required level of capital
investment?

Generates additional fodder?

Requires access to markets?

Required level of cooperation

Write your own practice

Hydrological purpose:

Bio-physical purpose:

Socio-economic purpose

Suited to altitude?

Suited to slope?

Suited to rainfall conditions?

Suited to soil conditions?

Suited to degraded land?

Land needs

Required level of labor input?

Required level of capital
investment?

Generates additional fodder?

Requires access to markets?

Required level of cooperation

Intervention card

Write your own

An intervention is any action/measure that is beyond farmers decision making (i.e. needs the government, NGO, ...) to enables a practice change.

description

- _____
- _____
- _____
- _____

Why is it needed?

- _____
- _____
- _____
- _____

Intervention card

Write your own

An intervention is any action/measure that is beyond farmers decision making (i.e. needs the government, NGO, ...) to enables a practice change.

description

- _____
- _____
- _____
- _____

Why is it needed?

- _____
- _____
- _____
- _____